

REMARKS

Claims 1-4 and 7-10 are pending in this application. Claim 1 has been amended to further define compound (B). Support for the claim amendment can be found in the Specification at page 9, lines 9-23, and page 9, line 26-page 10, line 7.

The amendment does not present new matter or raise new issues. In view of the preceding amendments and the following remarks, the applicants respectfully request reconsideration of the above-identified application.

THE CLAIMED INVENTION

In brief, the amended claims cover a curable composition resulting from a Michael reaction, which can be crosslinked at low temperatures or room temperature, but is also storage stable at room temperature, and does not suffer from the drawbacks of strong basic catalysts (which may impart yellowing cloudiness) or hydrolysis instability to the coating. In particular, the claimed invention requires, among other components, compound (B) having at least two **acetoacetate groups**. Further, claim 1 recites that, "for low-viscous liquid curable coating compositions, the number average molecular weight of the compound (B) is in the range between 230 and 2,000; and, for solid powder coating systems, the number average molecular weight of the compound (B) is preferably in the range between 1,000 and 40,000."

THE ADVISORY ACTION

The Advisory Action maintained the 35 U.S.C. §103(a) rejections of the claims. In particular, claims 1-4 and claims 7-10 were rejected in the Office Action of February 15, 2008, as being unpatentable over U.S. Patent No. 5,959,028 to Irie, et al., in view of U.S. Patent No. 5,268,473 to Moren, et al., and U.S. Patent No. 5,219,958 to Noomen, et al.

The applicants respectfully traverse these rejections.

The rejections of claims 1-4 and 7-10 were based on the combination of **Irie**, **Moren**, and **Noomen**. **Irie** was cited for the disclosure of a Michael reaction of claimed components (A) and (B); **Moren** was cited for the disclosure of tertiary phosphine catalyst used in a Michael reaction; and, **Noomen** was cited for the disclosure of blocking a Michael reaction catalyst with carboxylic acid.

Contrary to the assertions contained in the Office Action, however, it would not have been obvious to a person of ordinary skill in the art to combine the cited prior art to arrive at the claimed invention. In particular, the claimed invention requires a **tertiary alkyl phosphine** as the basic catalyst in a **general** Michael reaction of claimed compounds (A) and (B). Among other components, claim 1 recites compound (A) having at least two unsaturated groups which are activated for Michael addition, and compound (B) having at least two acetoacetate groups. As noted in the Response of May 15, 2008, **Moren** teaches a very specific type of Michael reaction involving **azlactones**, which does not apply generally to all Michael reactions, and certainly not to the claimed Michael reaction of components (A) and (B) which do not involve any azlactones. That is, it would not have been obvious to combine **Moren**'s disclosure of tertiary alkyl phosphine to **Irie** and **Noomen** because **Moren** is only directed to a very specific Michael reaction of **azlactones**, and neither **Irie** nor **Noomen** contain any teachings of azlactones or Michael reaction of azlactones.

As for **Noomen**, this reference was cited for the disclosure of “using formic, acetic, or propionic acid (6:1-4) in a composition comprising a Michael donor and acceptor (2:23-27).” (Office Action, p. 3). In regards to a basic catalyst for the Michael addition, **Noomen** does not disclose at all using a tertiary alkyl phosphine, or **selecting a strong basic catalyst that avoids the “cloudiness to the lacquer due to bad solubility, as well as considerable yellowing, as known.”** (Specification, p. 4, ll. 21-22) (discussing that it was known that the drawbacks to using a

strong basic catalyst in a Michael addition was cloudiness and considerable yellowing). In fact, **Noomen** gives absolutely no reason for deviating from the basic catalysts provided therein (*see* col. 5, ll. 15-31), and instead using a strong basic catalyst, specifically tertiary alkyl phosphine. Further, **Noomen** does not address at all avoiding the drawbacks of using a strong basic catalyst in a Michael addition. Given the numerous examples of basic catalysts provided in **Noomen**, and the large number of basic catalysts in general both weak and strong, and further given the absence in **Noomen** of any concerns of using a strong basic catalyst in a Michael addition, it would not have been obvious for one of ordinary skill to experiment endlessly to combine a tertiary alkyl phosphine catalysts with **Noomen**.

As for the claims as now amended, first, neither **Moren** nor **Irie** discloses compound (B) having at least two acetoacetate groups. In terms of a Michael donor, **Irie** discloses only a compound having malonate-terminated pendant groups (component (b)). (*See* **Irie**, col. 3, l. 43-col. 4, l. 19). **Moren** also fails to disclose a compound having acetoacetate groups.

On the contrary, as amended, claim 1 limits compound (B) to an acetoacetate group-containing compound. In addition, Examples 1 to 8 of the Specification describe claimed coating composition comprising acetoacetate group-containing compound (B). (*See* Specification, Table 1, p. 20).

Second, **Moren**, **Irie**, and **Noomen** fail to render the claimed invention obvious because none of the references disclose compound (B) having a specific number average molecular weight based on the application type of the curable composition, such as low-viscous liquid curable compositions or solid powder coating systems, as recited in amended claim 1.

Without any mention in the cited prior art of varying the number average molecular weight depending on the application type of the curable composition or, specifically, based on whether the

curable composition forms low-viscous liquid curable coating compositions or solid powder coating systems, there is no way one of ordinary skill in the art would have found the claimed invention obvious from the teachings of **Moren, Irie, and Noomen**.

Accordingly, the applicants respectfully request that the 35 U.S.C. §103(a) rejections be reconsidered and withdrawn.

In view of the above amendment and terminal disclaimer, the applicants believe the pending application is in condition for allowance.

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